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EXAMINER

MILIA, MARK R

ART UNIT PAPER NUMBER

2622

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,373

Applicant(s)

NAKAMURA, HIROAKI

Examiner

Mark R. Milia

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On page 34, line 15, "96" should read "76". Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S.

Patent No. 6658139 to Cookingham et al.

Regarding claim 1, Cookingham discloses an image processing apparatus comprising a display (see Fig. 1 and column 4 lines 34-35), an image processing unit for subjecting an image supplied from an image data supply source to image processing based on image processing conditions (see column 6 line 53-column 7 line 11 and column 7 lines 18-22), a memory for storing at least one first reference image (see

column 5 lines 1-6), a registration unit for registering said at least one first reference image in the memory (see column 7 lines 8-11), a display unit for selecting at least one second reference image from said at least one first reference image and displaying on said display said at least one second reference image together with a predicting finished-state-image of the image processed by said image processing unit (see Fig. 1, column 4 lines 24-29, and column 6 lines 24-52), and a first adjustment unit for adjusting said image processing conditions in said image processing unit by using said at least one second reference image displayed on said display and said finished-state-predicting image (see Fig. 4 and column 7 line 12-column 8 line 21).

Regarding claim 5, Cookingham discloses the apparatus discussed in claim 1, and further discloses wherein said registration unit registers a plurality of first reference images for each group corresponding to an image scene and said display unit displays said plurality of first reference images for said each group (see column 4 lines 26-29 and column 6 lines 24-42).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 6-9, and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cookingham as applied to claim 1 above, and further in view of U.S. Patent No. 5844542 to Inoue et al.

Regarding claim 4, Cookingham does not disclose expressly an output unit for outputting said first reference image stored in said memory as a hard copy; and a second adjustment unit for adjusting color and density of said first reference image stored in said memory.

Inoue discloses an output unit for outputting said first reference image stored in said memory as a hard copy; and a second adjustment unit for adjusting color and density of said first reference image stored in said memory (see Figs. 1, 3-4, and 8-9, column 4 lines 32-37, column 5 lines 6-15, and column 10 line 50-column 12 line 62).

Regarding claim 7, Cookingham does not disclose expressly wherein a color and a density residual of a calibration of an output device to which the image processed in said image processing unit is output are reflected on each of said first and second reference images.

Inoue discloses wherein a color and a density residual of a calibration of an output device to which the image processed in said image processing unit is output are reflected on each of said first and second reference images (see column 15 line 20-column 16 line 41).

Regarding claim 13, Cookingham does not disclose expressly wherein said memory stores said first reference image by colorimetric values.

Inoue discloses wherein said memory stores said first reference image by colorimetric values (see column 5 lines 6-28).

Regarding claim 14, Cookingham does not disclose expressly wherein said colorimetric values are XYZ values in a CIE1931 standard colorimetric system or $L^*a^*b^*$ values in a CIE1976 $L^*a^*b^*$ perceived color space.

Inoue discloses wherein said colorimetric values are XYZ values in a CIE1931 standard colorimetric system or $L^*a^*b^*$ values in a CIE1976 $L^*a^*b^*$ perceived color space (see column 5 lines 6-15).

Regarding claim 15, Cookingham does not disclose expressly wherein said memory stores said first reference image by values on a standard color space.

Inoue discloses wherein said memory stores said first reference image by values on a standard color space (see column 5 lines 6-28).

Regarding claim 16, Cookingham does not disclose expressly wherein said standard color space is a sRGB trichromatic system.

Inoue discloses wherein said standard color space is a sRGB trichromatic system (see column 5 lines 6-15).

Cookingham & Inoue are combinable because they are from the same field of endeavor, comparison and processing of digital images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the adjusting of color and density levels of a digital image of Inoue with the system of comparing overall quality of digital images of Cookingham.

The suggestion/motivation for doing so would have been to provide a system that is capable of comparing image quality before and after color adjusting to provide more efficient color and quality matching of digital images.

Therefore, it would have been obvious to combine Inoue with Cookingham to obtain the invention as specified in claims 4, 7, and 13-16.

Regarding claim 6, Cookingham does not disclose expressly wherein said image processing unit also processes said finished-state-predicting image by using image processing conditions of said first reference image registered the memory.

Inoue discloses wherein said image processing unit also processes said finished-state-predicting image by using image processing conditions of said first reference image registered the memory (see Fig. 9, column 2 line 54-column 3 line 3, and column 10 line 50-column 11 line 25).

Regarding claim 9, Cookingham does not disclose expressly wherein said registration unit registers image processing conditions for said finished-state-predicting image as image processing conditions for said first reference image.

Inoue discloses wherein said registration unit registers image processing conditions for said finished-state-predicting image as image processing conditions for said first reference image (see column 5 lines 6-15, column 6 lines 16-19, and column 11 line 45-column 12 line 62).

Cookingham & Inoue are combinable because they are from the same field of endeavor, comparison and processing of digital images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the same processing conditions for the reference image and the image to be output as described by Inoue with the system of comparing overall quality of digital images of Cookingham.

The suggestion/motivation for doing so would have been to provide a more accurate and reliable output of an image after color adjustment so as to have the same overall quality when compared to the reference image.

Therefore, it would have been obvious to combine Inoue with Cookingham to obtain the invention as specified in claims 6 and 9.

Regarding claim 8, Cookingham does not disclose expressly wherein an output device to which the image processed in said image processing unit is output and an output form used are selectable and said first adjustment unit modifies image processing conditions for said finished-state- predicting image in accordance with the output device and output form selected.

Inoue discloses wherein an output device to which the image processed in said image processing unit is output and an output form used are selectable and said first adjustment unit modifies image processing conditions for said finished-state- predicting image in accordance with the output device and output form selected (see Figs. 1, 3-4, and 8-9, column 3 lines 33-42, column 4 lines 32-37, column 5 lines 6-15, column 10 line 50-column 12 line 62, and column 15 line 20-column 16 line 41).

Cookingham & Inoue are combinable because they are from the same field of endeavor, comparison and processing of digital images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the modification of image processing conditions in accordance with a particular output device as described by Inoue with the system of comparing overall quality of digital images of Cookingham.

The suggestion/motivation for doing so would have been to prevent image degradation and other image output problems caused by the inferiority in reproduction range of color printers (see column 15 lines 22-40 of Inoue).

Therefore, it would have been obvious to combine Inoue with Cookingham to obtain the invention as specified in claim 8.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cookingham as applied to claim 1 above, and further in view of U.S. Patent No. 5631974 to Lau-Kee et al.

Regarding claim 2, Cookingham does not disclose expressly a moving unit for moving said second reference image displayed on said display.

Lau-Kee discloses a moving unit for moving said second reference image displayed on said display (see Fig. 2 and column 8 lines 18-27).

Regarding claim 3, Cookingham does not disclose expressly at least one of a reference image enlargement/reduction unit for enlarging or reducing said second

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reference image and a reference image partial display unit for partially displaying said second reference image.

Lau-Kee discloses at least one of a reference image enlargement/reduction unit for enlarging or reducing said second reference image and a reference image partial display unit for partially displaying said second reference image (see Fig. 2 and column 8 lines 18-27).

Cookingham & Lau-Kee are combinable because they are from the same field of endeavor, processing and comparison of digital images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine ability to manipulate and move a reference image as described by Lau-Kee with the system of comparing overall quality of digital images of Cookingham.

The suggestion/motivation for doing so would have been to provide more flexibility and greater accuracy in the comparison of images.

Therefore, it would have been obvious to combine Lau-Kee with Cookingham to obtain the invention as specified in claims 2 and 3.

Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cookingham as applied to claim 1 above, and further in view of Inoue and Lau-Kee.

Regarding claim 10, Cookingham does not disclose expressly claim wherein said display unit displays said second reference image and said finished-state-predicting

image in a partially overlapped state on said display and indicates by color or density a magnitude of at least one of a color difference and a difference in an image structure index between the second reference image and the finished-state- predicting image in the partially overlapped state.

Inoue discloses indicating by color or density a magnitude of at least one of a color difference and a difference in an image structure index between the second reference image and the finished-state- predicting image (see Fig. 9 and column 10 line 50-column 11 line 21).

Lau-Kee discloses wherein said display unit displays said second reference image and said finished-state-predicting image in a partially overlapped state (see Fig. 2).

Regarding claim 12, Cookingham does not disclose expressly wherein said image structure index is a power spectrum.

Inoue discloses wherein said image structure index is a power spectrum (see Fig. 9, column 3 lines 33-42, and column 10 line 50-column 11 line 21).

Cookingham, Inoue, & Lau-Kee are combinable because they are from the same field of endeavor, processing and comparison of digital images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the combine ability to manipulate and move a reference image as described by Lau-Kee and the adjusting of color and density levels of a digital image of Inoue with the system of comparing overall quality of digital images of Cookingham.

The suggestion/motivation for doing so would have been a system that is capable of comparing image quality, with more flexibility and greater accuracy, before and after color adjusting to provide more efficient color and quality matching of digital images.

Therefore, it would have been obvious to combine Inoue and Lau-Kee with Cookingham to obtain the invention as specified in claims 10 and 12.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cookingham as applied to claim 1 above, and further in view of U.S. Patent No. 5526285 to Campo et al.

Cookingham does not disclose expressly a unit for designating specific regions in said second reference image and said finished- state-predicting image displayed on said display, wherein said display unit indicates by color or density a magnitude of at least one of a color difference and a difference in an image structure index between said designated regions.

Campo discloses a unit for designating specific regions in said second reference image and said finished- state-predicting image displayed on said display, wherein said display unit indicates by color or density a magnitude of at least one of a color difference and a difference in an image structure index between said designated regions (see column 2 lines 11-13 and column 12 line 45-column 13 line 13).

Cookingham & Campo are combinable because they are from the same field of endeavor, image comparison.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the measurement of color difference between images as described by Campo with the system of comparing overall quality of digital images of Cookingham.

The suggestion/motivation for doing so would have been to provide increased accuracy and enhanced image quality comparison means.

Therefore, it would have been obvious to combine Campo with Cookingham to obtain the invention as specified in claim 11.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. To further show state of the art refer to U.S. Patent numbers 6333752 (Hasegawa et al.), 4935809 (Hayashi et al.), 5600574 (Reitan), 5742296 (Yamada), 5999636 (Juang), 6097501 (Hayashi et al.), 6111984 (Fukasawa), 6301015 (Terjima), 6539106 (Gallarda et al.), and 6591006 (Niemann).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (571) 272-7408. The examiner can normally be reached M-F 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached at (571) 272-7402. The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark R. Milia
Examiner
Art Unit 2622

MRM

JOSEPH R. POKRZYWA
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